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MARKETING COLORADO BOXED PEACHES IN THE TWIN CITIES--1947

Report of a study made under the
Research and Marketing Act of 1946.

By

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WASHINGTON 25, D. C.

MARKETING COLORADO BOXED PEACHES IN THE TWIN CITIES - 1947¹

By

John H. Heckman

Senior Agricultural Economist

First-hand studies of the marketing of Colorado peaches in the St. Paul and Minneapolis markets during the 1947 season covered problems ranging from type of fruit and package preferred to the effectiveness of the advertising campaigns.

For several years, the Colorado peach industry has searched for methods to improve its marketing operations. For several seasons, representatives of the Colorado State College of Agriculture and Mechanic Arts, Fort Collins, made market observations during the shipping period in cities close by. They then made constructive recommendations to the industry. In 1946, the Cooperative Research and Service Division of the Farm Credit Administration for the first time cooperated with the A. & M. College in making such observations and reports on markets outside the State.

The study during the 1947 season was expanded considerably and covered a much wider range of problems, as well as a new approach to them, under one of the first projects under the new Research and Marketing Act. It also involved additional cooperating agencies.

The much-expanded 1947 study showed consumers in these distant cities preferred firm ripe peaches. The 6-pound cartons prepackaged at shipping point were not popular with the consumers. Evidently the small 2-pound tins fit the needs of the small purchaser and those needing larger quantities prefer the regular peach box.

It also showed that years of market development and promotion were paying off for the Colorado peach industry.

Observing general market conditions the researchers found some room for improvement. Eliminating the variation in the number of peaches in the boxes and cutting down the number of bruised peaches in the large sizes would help.

OBJECTIVES

The 1947 study centered around two objectives; (1) checking consumer acceptance and the market life of peaches when picked at varying stages of maturity and (2) appraising the effect of industry advertising programs on consumer buyers.

Findings from this project have a definite and practical application to the Colorado peach industry. The consuming districts are far removed from

¹This work represents the Colorado and terminal market phase of a regional peach marketing project for the inter-mountain area under the Research and Marketing Act.

the producing area. A high proportion of these peaches are shipped over one thousand miles. For instance, Minneapolis, the second largest market for Colorado peaches in 1946, is about 1,200 miles from Grand Junction. Thus, a major portion of the Colorado peaches are on the road to market for a period of from 2 to 5 days. Several additional days are required for the fruit to travel through the wholesale and the retail channels. Most of this later travel is made without refrigeration. The weather is usually hot. So, fruit must be in good condition and be durable to stand the journey.

On the other hand, nature is better at touching up the flavor, color, and texture of perishable products than any other agent. Therefore, the more mature the fruit at time of harvest, the better the product. So, we have the problem of harmonizing the carrying quality or durability and the utility to the consumer. In attempting to determine how best to do this, tests were made of fruit picked at three stages of maturity - tree ripe, firm ripe, and standard or hard ripe.

Regarding the second objective, studying effectiveness of advertising campaigns, the Mesa County Growers have been contributing to an advertising fund for several years. Growers and organizations have been contributing to promotion programs over a much longer period. Naturally, these growers are interested in appraising the effects of these expenditures.

COOPERATING AGENCIES

Several agencies, both public and private, participated in this project. These were: The Mesa County Peach Board of Control, the Mesa County Research Committee, the Colorado A. & M. College, a large chain store and its purchasing affiliate, and the Cooperative Research and Service Division of the Farm Credit Administration.

Fruit observed in the markets and used in the tests was marketed by three shippers in Mesa County. Two of these were cooperatives. The Colorado A. & M. College was represented by R. T. Burdick of the Economics, Sociology, and History department and Carl Jorgensen of the Horticulture department. Mr. Jorgensen was responsible for conducting the program at shipping point. The Farm Credit Administration was represented by J. H. Heckman, who was responsible for tests and observations in the terminal markets.²

MARKETS

The Twin Cities of Minneapolis-St. Paul were selected as the best places for the study. There was a two-fold reason for this selection. First,

²In addition, Mr. Ralph Backstrom, Extension Economist in Marketing, University of Minnesota, assisted with arrangements in the Twin Cities. Mr. Arno Kallio, graduate student in horticulture, University of Minnesota, assisted with market data and displays. Miss Gaynold Carrol, graduate student in agricultural economics, University of Minnesota, helped with consumer interviews.

these combined markets are the largest receivers of Colorado peaches and, second, previous work on this series of projects has been in markets where peaches are sold in baskets. Colorado peaches marketed in the Twin Cities are almost exclusively packed in boxes and the peach industry wished some data on this type of marketing.

PROCEDURE

The general plan was to handle the test fruit according to commercial methods and practices. This policy prevailed in picking, packing, shipping, and handling through wholesale and retail channels.

The test peaches were picked, graded, and packed in standard boxes under Mr. Jorgensen's supervision. Each box was identified by paint marks. All fruit was graded to U. S. No. 1 specifications and was of the 60-count size, that is, 60 was the number to be packed in each box. The boxes were loaded as part of standard cars, so no special attention was given to handling and shipping the regular boxes.

The test boxes were loaded in cars purchased by the chain store affiliate for the account of the Minneapolis Division of the chain store. The going price was paid Colorado shippers. The buyer, in turn, was paid the going price by the chain stores receiving the fruit.

The 120 boxes of varying maturities used on the test were loaded at Palisade, Colorado, on Wednesday, August 27, and unloaded on September 2, making a total of 6 days in transit. Upon arrival, the fruit was equally divided between two super markets. One of these markets, located at 2440 Hennepin Avenue, is in a high income area. The other, located at 1014 Franklin Avenue, is in a medium income area. In each store, the boxes were kept without refrigeration until sold. This was done because it is the usual practice in these stores.

The test boxes were checked for condition on arrival and the fruit was repacked as needed into one-quart veneer till baskets. The baskets were displayed on self-service counters. Boxes of peaches of the different maturity types were placed side by side on the counters. The same prices were charged for all. As each sample was of the same grade and size, the only difference was the state of maturity at the time of picking. Replacement tills were put up as sales were made. Decayed or overripe fruit was replaced as detected. As nearly as possible, the same amount of counter space was kept filled with each type.

TESTING CONSUMER PACKAGES

Some cardboard cartons were shipped in master containers. Each carton was packed with 24 wrapped peaches of the 60 size. Six cartons were put in each master container. The top two rows of peaches in each carton were unwrapped and the cartons displayed on a self-service counter in one of the super markets.

GETTING CONSUMER OPINIONS

Consumer opinion of Colorado Peaches in the Twin Cities was sampled by two methods. In the first, 100 consumer purchasers were interviewed as they purchased or inspected Colorado peaches in retail stores. Each was asked questions as shown in schedule, page 20. In the second, 500 more detailed questionnaires in stamped self-addressed envelopes were placed in peach boxes. The boxes selected were in stacks set aside by the store management for sale in unbroken units. The envelopes were addressed for return to Colorado A. & M. College. Of these, 74 replies were received and will be discussed later.

GENERAL MARKET CONDITIONS NOTED

Contacts were made with representative brokers and wholesalers in the markets. The brokers handling the accounts of each of the large shippers were contacted first. A general discussion was had with each and names secured of wholesalers receiving cars of Colorado peaches. These dealers or wholesalers were then interviewed and asked for their reactions and recommendations. In most cases, the same dealer had purchased cars from more than one major shipper. Observations were also made in retail stores other than the two in which test sales were made. In these, prices, sources, and types of displays were noted.

CONSUMER PREFERENCE

The results of the consumer preference tests are summarized in tables 1, 2, and 3. Twenty boxes picked at each of the three stages of maturity were assigned to each store. This represented a total of 60 boxes. The peaches sold fast in the Hennepin Avenue store and the test was closed at the end of the second day. See table 2. Sales at the Franklin Avenue store were slower and the test continued through the fourth day. See table 1. The tests were closed when the fruit of one maturity ran low. In each case, a majority of the standard or hard ripe fruit was still on hand at the end of the test. These boxes were then put with the fruit on regular sale.

The usual sales or pricing policy of each store was followed. Thus, the prices charged were not the same. At the Franklin Avenue, a till basket of 8 peaches was sold for 33 cents or $4\frac{1}{8}$ cents for each peach. In the Hennepin Avenue store 10 peaches were put in each till and sold for 35 cents or $3\frac{1}{2}$ cents for each peach. These prices represented a variation of about 2 cents per pound. Thus, actually the medium income store charged less per till, but $\frac{5}{8}$ of a cent more per peach.

No doubt the difference in price was partially responsible for the slower rate of sale at the Franklin Avenue store. However, it is believed that the type of customer was the greater factor. For instance, in the Hennepin Avenue, or the high income area store, 175 unbroken boxes were sold during the 2 days of the sales. In this store, almost the same number of whole boxes as quart tills were sold. At the

Table 1. - Summary of peach sales at 1014 Franklin Avenue, Minneapolis, September 1947.¹

DATE OF SALE	TILLS OF 8 PEACHES EACH SOLD			CENTS PER TILL
	TREE RIPE	FIRM RIPE	STANDARD OR HARD RIPE	
September				
2.....	21	31	2	33
3.....	22	38	6	33
4.....	6	29	1	33
5.....	6	35	6	33
Total...	55	133	15	-

¹Sixty boxes - 20 of each type were used.

NOTE:

Tills on table when test ended:

<u>Tree ripe</u>	<u>Firm ripe</u>	<u>Standard</u>
6	5	21

Thrown out:

12 boxes tree ripe
 17 peaches firm ripe
 6 peaches standard or hard ripe

Turned back to store for regular sale:

15 boxes standard ripe

Franklin Avenue store, in the medium income area, people evidently do more home canning. During the 4 days of the test, 600 unbroken boxes were sold for home canning. Thus, almost three times as many whole box as till basket sales were made. People buying boxes for canning no doubt use part of the fruit for immediate slicing so did not buy the small tills. It is believed that this practice had the greater influence on the quantity of tills sold than did the variation in price.

In repacking from the boxes to the till baskets, the unsaleable fruit was thrown out. Also, during the study, fruit showing decay or breakdown was replaced.

Table 2. - Summary of peach sales at 2440 Hennepin Avenue, Minneapolis, September 1947.¹

DATE OF SALE	TILLS OF 10 PEACHES EACH SOLD			CENTS PER TILL
	TREE RIPE	FIRM RIPE	STANDARD OR HARD RIPE	
September				
2.....	28	40	7	35
3.....	40	55	3	35
Total..	68	95	10	-

¹Sixty boxes - 20 of each type were used.

NOTE:

Tills unsold when test ended:

<u>Tree ripe</u>	<u>Firm ripe</u>	<u>Standard</u>
12	21	26

Thrown out:

6-2/3 boxes tree ripe
 30 peaches firm ripe
 19 peaches standard or hard ripe

Turned back to store for regular sale:

14 boxes standard ripe

Table 3. - Combined sales of test peaches at two Minneapolis stores, September 1947.

STORE	NUMBER OF TILLS SOLD		STANDARD OR HARD RIPE
	TREE RIPE	FIRM RIPE	
1014 Franklin.....	55	133	15
2440 Hennepin.....	68	95	10
Total.....	123	228	25

The consumer purchasers showed a distinct preference for the firm ripe fruit. Second choice was the tree ripe. They would not buy the standard or hard ripe peaches as long as the others were available. Apparently, consumers made their decisions largely on the basis of appearance, as little handling was done. The firm ripe fruit was the most attractive, with bright color and a fresh luster. The hard ripe fruit

looked a little green and never colored to the extent of either of the other two types. The tree ripe fruit was not brushed and had a dead ripe appearance. While the tree ripe peaches were ideal for immediate use, evidently the appearance caused the customers to shy away. After the second day, hardly any tree ripe were taken. See table 1. Apparently, an educational program would be necessary to stimulate the confidence of the public in this tree ripe fruit.

High losses just about rule out the tree ripe peaches under present handling methods. A total of 19 of the 40 boxes, or almost one-half, were graded out during repacking or were used as replacements on the counters. Considering the longer period involved, there was little difference between the two stores.

The ripe fruit nearly all went down the last day. Nearly three whole boxes were discarded the fourth day at the Franklin Avenue store. Only two peaches were salvaged from one and seven from another. No disease was apparent, but some peaches were bruised, some were too soft, and many decayed as a result of bruising. This shipment remained in transit 6 days, which is an abnormally long time. Ordinarily, the Twin Cities are not more than 3 or 4 days away by rail.

The firm ripe fruit stood up well and the number thrown out were relatively low. See tables 1 and 2. Even though the peaches were not refrigerated, at the end of the fourth day the firm ripers were still in good enough condition to last 2 or 3 more market days, if kept in boxes and repacked as needed. They had a good testing as real summer weather prevailed - the official maximum temperature during the 4 days was 89, 90, 87, and 74 degrees, respectively.

Some interesting features concerning marketing immature fruit are shown in table 4. The average loss of weight per box of the standard or hard ripe fruit in transit was 11 ounces, almost three times the average 4-ounce loss of the firm ripe and almost six times the 2-ounce loss of the tree ripe. As shown in the last column of the table, this had a distinct bearing on the weight of the fruit delivered to the consumer. For some reason, the boxes of firm ripe fruit averaged 1 pound 3 ounces lighter at shipping point. This reduced the arrival weight of these peaches.

Table 4. - Comparison of loss in weight during transit of Colorado peaches picked at varying degrees of maturity shipped to Twin Cities, September 1947.

MATURITY	NUMBER OF BOXES	AVERAGE WEIGHT								
		SHIPPING WEIGHT		ARRIVAL WEIGHT		LOSS	WEIGHT OF BOX ¹		NET ARRIVAL WEIGHT OF FRUIT	
		LBS.	OZ.	LBS.	OZ.		LBS.	OZ.	LBS.	OZ.
Standard or hard ripe.....	40	20	14	20	3	11	2	11	17	8
Firm ripe.....	38	19	11	19	7	4	2	11	16	12
Tree ripe.....	38	20	14	20	12	2	2	11	18	1

¹Average weight of 30 empty boxes.

CONSUMER PACKAGES

The consumer unit containers packed at the shipping point arrived in good condition. This was true of both the master container and the individual cartons. The master containers were loaded between the gates in the car. No information is available as to whether these boxes would stand shipping under regular loading conditions.

The individual cartons held 24 peaches or about 6 pounds. They were priced at 79 cents each, in line with the going price of peaches sold by other methods. These packages were, of course, new to the buyers and no special sales effort was put forth, to introduce them. The cartons were placed on the self-service counter with the price card displayed above them. With the two top rows of peaches unwrapped, the cartons made an attractive package. For some reason they did not appeal to the buyers and did not sell. At the end of the second day only 7 cartons had been sold. The peaches in the remainder were repacked and sold in quart tills.

The decision to prepackage peaches or not in these markets apparently rests with the merchants. The consumers seem pretty well divided as to its merits. Of the 61 replying to this question in the mailed schedule 33 preferred to select their own fruit while 28 preferred to have it prepackaged.

While this sample is too small for definite conclusions such a package probably has little place in a market where boxed peaches are handled. The quart tills are ideal for the small purchaser. The box size seems to fill the need of the larger buyer. Thus, the in-between 6-pound package seems to be a misfit. It would no doubt have greater adaptation in a bushel market.

Consumer packages for peaches, however, are already established in the Twin Cities. As pointed out, it is the general practice to repack boxed fruit into one-quart tills holding approximately 2 pounds. This repacking is done in the stores. The 2-pound unit seems adapted to family needs for immediate use.

Owing to shipping distances involved, it is doubtful if packing a 2-pound consumer package would be feasible for shipment into the box markets. After all, if the two stores used for the test sales are typical, the small per pound sales are a minor portion of the total business. During the 2-day test at the Hennepin Avenue store, the fruit sold in tills was only about 16 percent of the total peaches sold in the store. During the 4-day test at the Franklin Avenue store the sale of peaches in tills only amounted to about 5 percent of the total. At the present time, packing these tills in the store furnishes a good opportunity for salvaging fruit from damaged boxes. With the small percentage involved, the great shipping distances, and the difficulty of handling small unit packages, it is doubtful whether the packing of these units at shipping point is practical.

CONSUMER OPINIONS AND ADVERTISING

Consumers expressed opinions on effectiveness of the general marketing of the peaches and on the advertising programs, both in interviews and in replies to the special questionnaire inserted in the boxes.

CONSUMER OPINIONS

Consumers in the Twin Cities definitely wait for the Colorado peach season when planning their annual canning needs. How completely this fruit takes over in these markets is indicated in table 5. During each of the 2 weeks beginning September 2 and September 8, Colorado shipments accounted for over three-quarters of the total carlot arrivals. Peak arrivals did not extend over the entire 2 weeks, however. Almost half the total cars reported for the week of September 8 actually arrived during the weekend before, or September 6 and 7. By the end of the week, Colorado cars were down to about 5 per day. So the bulk of the shipments actually arrived over a period of about 1-1/2 weeks.

Colorado receipts just about doubled the total volume of peaches arriving in the Twin Cities. This is seen by comparing the arrivals of the week of September 2 with those of the week previous, or August 25. Yet, in spite of this avalanche of fruit, dealers reported the most active market in recent weeks. Peaches were everywhere but retailers were sold out before Saturday night. To dispose of this volume of fruit on a strong market requires a definite buildup aimed at the buyers. This build-up is the result of the many programs over the long period of years these shipments have been coming into these markets.

Most of the Colorado peaches bought in the Twin Cities are canned. The folks think that peaches from this area are superior for that purpose. Of the 100 consumer purchasers interviewed, 71 stated that Colorado peaches were better than any other for canning, 12 believed they were just as good as any others. Thus, 83 percent classed them as good or better for canning compared with competing products. See table 6.

Table 5. - Comparison of carlot arrivals of Colorado peaches in Twin Cities with total arrivals during 3-week period - September 1947.¹

WEEK IN 1947 BEGINNING	SOURCE OF PEACHES			TOTAL	PERCENT OF TOTAL FROM COLORADO
	COLORADO	UTAH	OTHERS		
August 25.....	40	0	51	91	44
September 2.....	148	0	25	173	86
September 8.....	76	15	8	99	77

¹Market News Reports.

Table 6. - Comparison of Colorado peaches with those of other areas for fresh use and canning by 100 consumer purchasers in Twin Cities - September 1947.

USE	EQUAL OR BETTER			NOT AS GOOD	DON'T KNOW	DON'T USE	TOTAL
	BETTER	AS GOOD	TOTAL				
Canning....	71	12	83	4	8	5	100
Fresh.....	32	50	82	8	10	0	100

Consumer preference is much more pronounced for Colorado fruit for canning than for use fresh. Only 32 instead of 71 thought Colorado peaches were better for using fresh. Half, however, thought they were just as good. So the 82 percent with opinion of "as good or better" almost exactly matches the 83 percent with corresponding opinions in regard to use for canning. The higher proportion of "as good" opinions might be attributed to the longer season over which peaches are used fresh which necessarily requires the use of fruit from several areas.

From data in table 6, it is evident that the 100 consumers interviewed believe Colorado peaches have special qualities for canning. By the volume of their purchases shown in table 5 they believe this strong enough to wait until almost the end of the peach season to get them. Reasons most frequently given for this preference were flavor, color, and firmness. The color and firmness apply to the canned product. It is believed these peaches hold the bright color in cans and maintain shape better and are generally firmer. It is emphasized that this is the opinion of the consumers and not the findings of the agencies making the survey. As far as is known there has been no definite research on this subject.

Regardless of factors responsible for this preference, it has been developing over a long period of time. Table 7 shows the reasons given by the 100 consumers interviewed for making the first purchase of Colorado peaches. Of this group all but four were repeat buyers. Twenty-one had been buying them so long that this was given as the reason for preference. Such replies as "20 years," "10 years," "since we were married" were given as reasons. Personal influence has been the most significant factor. Forty-two of the 100 attributed their buying habits to the influence of other persons. Evidently, canning Colorado peaches in the Twin Cities tends to become a part of the family tradition similar to politics and fraternal orders, as 22 attributed this use to family influences. Such comments as "mother used them," and "we used them at home" were made. Neighbors and grocers were the most prominent among other persons influencing purchases. About a fifth or 21 of the 100 "just bought them." This group gave such reasons as "to try them out" or "none others in the store," but no one in particular was responsible.

Table 7. - Influences responsible for 100 consumers in Twin Cities making first purchase of Colorado peaches - September 1947.

PERSONAL INFLUENCE			RANDOM OR CURIOSITY	LONG PERIOD USE	ADVERTISING			OTHER	TOTAL
FAMILY	OTHER PERSONS	TOTAL			PAPER	RADIO	TOTAL		
22	20	42	21	21	6	2	8	8	100

The consumer opinions summarized from 74 questionnaires mailed to Colorado A. & M. College are in general agreement with the statements from personal interviews.

Ninety-two percent of these replies showed a preference to purchase peaches in boxes; 56 percent preferred to have them wrapped; 90 percent had purchased Colorado peaches before; 89 percent considered that the quality of Colorado peaches was dependable; 71 percent considered Colorado peaches as of superior quality. Colorado peaches were used for canning, slicing, and eating out of hand. Many reported more than one use. For example, 90 percent of the replies gave canning as one of the uses to be made of Colorado peaches. Well over one-half of all replies also used them for sliced peaches and nearly one-half of the replies included eating out of hand as a favorite use of Colorado peaches.

Lack of blemish, size, and ripeness were the characteristics more commonly used as the reasons for selecting Colorado peaches in the markets.

The most common criticisms of Colorado peaches were too many bruised and spoiled peaches, peaches too green, price too high, or peaches too small or poorly graded.

ADVERTISING

Eight of the 100 consumer purchasers credited the advertising program with influencing their first buy. Six of these were guided by newspaper ads and two by the radio. The sample of 100 seems too small to be definite but, if it is a representative cross-section, 8 percent of the total consumers is a sizeable portion.

Actually, Colorado peaches have been sold in the Twin Cities for many years. The cumulative effects of satisfactory experience, together with the special advertising programs of the industry and brand promotion by the shipping agencies, all are involved in the present consumer response. No appraisal of the advertising program should ignore this background. A number of factors have been responsible and many years are involved.

The promotion program, however, was not responsible for any of the four new buyers contacted. These four gave the following reasons: "Wanted California peaches but they were gone," "only ones in the store," "neighbor recommended them," and "just happened to buy them."

In reviewing the promotion program, recognition should be given advertising done by the retail trade. As part of the fast-moving "deal" - the marketing season - and in preparing for it, retailers advertise extensively. See figures 1 and 2. The clippings in figure 1 represent all the ads appearing in one of the large Twin Cities papers for September 4 or the peak volume week. It signifies the active "push" given the deal by the retailers. Figure 2 shows clippings of all the retail ads in the same paper the following week of September 11. These ads issued the final call for Colorado peaches.

Besides the newspaper ads, all leading stores had conspicuous signs painted in windows. Some of these merely advertised Colorado peaches. Many, however, designated brands. Also, some of the food broadcasts of plentiful items by public agencies mentioned Colorado peaches.

In view of the retail trade and public agency advertising it is difficult for the individual consumer to distinguish between these programs and the Colorado industry advertising program. Nineteen of the 100 interviewed were certain they had seen the industry ads in the paper and 5 had heard radio announcements. Apparently, the consumers follow the grocers' ads and window signs and are guided by them. So, it is very probable that some of these consumers confuse one with the other.

Some partial conclusions drawn from the results of this limited sample are:

1. There is a need for further work involving a larger number of opinions. A practical method of getting this might be putting return addressed postcards in boxes of packed fruit at shipping point. Several thousand of these could be prepared at less expense than for central market interviews.



Figure 1. - Retail ads about Colorado peaches in one Minneapolis paper, September 4, 1947.

2. Most people have been buying Colorado peaches for a long time.

3. Several forces or factors have influenced the use of the peaches and the timing or waiting for the season.

4. Opinions of other people have been the greatest factor in influencing individual buyers.

The above factors should be taken into account when determining the policy for future programs.

The industry promotion program was developed for two main purposes, to influence and obtain new customers and to retain old customers and increase their business. Further study is needed to definitely determine the possibility for attracting new customers. However, as 96 of the 100 interviewed were repeat customers, probably the field of untouched buyers is limited. If the chief objective is to inform and hold old customers, the Colorado industry and the city trade might supplement each other by a coordinated program. Evidently the masses of shoppers see the grocers' ads. Only a limited number distinctly recall seeing the industry ads. Tying the industry ads into the program of the retail advertisers might strengthen the program of both. The feasibility of this approach was mentioned by a number of wholesalers and brokers.



Figure 2. - Retail ads about Colorado peaches in one Minneapolis paper, September 11, 1947.

GENERAL MARKET OBSERVATIONS

Some general marketing problems were also studied at the Twin Cities markets. They included use of baskets, competition, pricing, comparison of Mesa and Delta County fruit, and dealer reactions.

BASKETS

After last year's study more care in packing basket peaches was recommended. Also the need for labeling or otherwise identifying baskets was pointed out. As the Twin Cities are box markets, the work this year did not permit much observation of peaches in baskets.

However, limited observations were made at Ft. Collins and at Omaha. These observations were too limited for general conclusions but the appearance of the baskets observed was much improved over those of last year. In general, the peaches were packed better and the stenciled or labeled baskets with printed rim collars made an attractive appearance. The limited number observed were equally as attractive in appearance as baskets from other areas seen in Omaha and in the Twin Cities.

The growers and shippers of each district have a greater interest in carrying desirable qualities of their products through to the final buyer than any handler along the route. If they don't do this job themselves, it probably won't be done. Two instances will emphasize the importance of identifying products if an industry program is being carried on.

Illustration 1. The picture in figure 3 was taken during the second week of September. The poster advertises Georgia peaches at 25 cents a basket. There were peaches at 25 cents a basket below the sign and probably had been all summer. However, there had been none from Georgia there for several weeks. The last car had arrived August 8, more than a month before and volume for several days before that had been very light. Beneath that sign, no doubt, had paraded peaches from South Carolina, North Carolina, Illinois, and Colorado in about that order. The merchant's job was to sell peaches and he wasn't interested in geography.

Illustration 2. A purchaser in a retail fruit market was heard to protest the high prices of the Colorado boxed peaches. Along with the protest the inquiry was made as to whether any Colorado bushels were available. The enterprising operator replied "I have just one left," and pointed to an unlabeled bushel of very good peaches. The buyer paid \$3.00 for the bushel and went away apparently happily. But he did not have Colorado peaches.

COMPETING FRUIT

As shown in table 5, Colorado supplied over three-fourths of the peaches unloaded in the Twin Cities during the first 2 weeks of September. The remainder were contributed by shippers from a number of areas. Competing boxes during the first week were mostly Hales from Washington. During the second week, some boxed Elbertas from Utah arrived. While the Twin Cities are a top-heavy boxed fruit market, bushel baskets were in evidence the first week from Illinois, Indiana, and Kentucky. During the second week a few cars of baskets from Utah appeared on the market.

PRICES

A wide range in prices prevailed. The price of unbroken boxes mostly moved up at 10 cents a box intervals with the final figure usually 9. The range extended from \$1.69 to \$2.19 with most quoted at \$1.69 to \$1.89, depending on type of store and whether or not a special peach sale was being featured. See figures 1 and 2.



Figure 3. - Minneapolis retailer advertising Georgia peaches the second week of September when Colorado peaches were on the market and Georgia peaches had not been available for several weeks.

If the experiences of the two test stores were typical, unbroken boxes were responsible for the bulk of the business. However, small sales of fruit by the pound were made. These peaches were generally sold in quart till baskets. The tills were packed with 8 or 10 peaches each, mostly size 60's with a few 50's. The range in price of these tills was 25 to 45 cents with 29, 33, 35, and 39 cents being the price in between. The most popular quotations were 25 to 35 cents a till. The preference for boxed fruit in the Twin Cities is emphasized by the fact that while these prices for tills met no resistance the sale of baskets lagged at from \$3.00 to \$3.50 per bushel. The price of peaches in baskets was about 50 percent less a pound than was being paid for boxed fruit.

COMPARISON OF MESA AND DELTA COUNTY FRUIT

Leaders of the peach industry in Mesa and Delta Counties were interested in finding the relationship of the fruit of these two individual districts to the total Colorado peaches marketed in the Twin Cities. They especially were interested in whether the trade build-up given the Mesa County movement carried over to effect the sale of Delta County shipments.

During the first part of the season, or until the middle of the second week of September, practically everything was from Mesa County. Peaches from Delta County, however, were getting plentiful during the latter part of the second week.

Any appraisal of the relationship between the two districts should be based on a background comparison of volume, methods of handling, and similar factors. Volume of Colorado peaches in the Twin Cities during the peak period of Mesa County movement amounted to 20 to 30 carloads per day. During that portion of the Delta County movement which was observed, arrivals dropped to about 5 cars of Colorado peaches per day. The peaches from Mesa County were all shipped under three well-known brands. Shipments from Delta County were made under several brands which, owing to the limited volume, are not as well known as the Mesa County brands. Also, as a result of smaller total Colorado Volume available at the time Delta County peaches arrive, a greater proportion of the total number of peaches are in the markets from other areas.

Thus, at the close of the Mesa County movement, the Colorado peach atmosphere in the Twin Cities was being diluted in three ways: By lower total volume; by scattering the identity among several brands; and by mingling the smaller volume of Colorado peaches with larger proportions of fruit from competing areas. This naturally resulted in less emphasis on Colorado peaches by the trade. This disposition is pretty well illustrated by the retailers' ads in figure 2. These "last chance" ads imply a signing off of Colorado peaches by the Twin Cities trade.

The dealers like the Delta County fruit. The trade pointed out the sizes usually average smaller but that the peaches were well-packed. In fact, some mentioned that the average pack was better than that of Mesa County. There is, however, a general feeling that the Colorado season ends with the Mesa County shipments. If some way could be found of concentrating volume and centralizing effort, the unity of the "deal" could be prolonged.

DEALER REACTIONS

The general feeling toward Colorado peaches among the trade was good. The "deal" had apparently been profitable to all factors all along the line. The demand was so strong in the Twin Cities that many cars sold to dealers in other markets were resold in Minneapolis-St. Paul. This resulted in several arrival prices for the same type of fruit. This disturbed some of the trade, but apparently they kept buying peaches.

Two points were raised, however, to which some attention needs to be given - variation of actual count of peaches in the boxes from the number stamped on the box and bruising of fruit of sizes larger than 60.

Variation in Count

Considerable flexibility in the formula governing the actual count conforming to the number stamped on the box is necessary. Obviously, under practical packing operations, the exact number could not be put into every box. Therefore, some flexibility is necessary for efficient and practical operations. This is especially true with a range of 10 between packing sizes when less than 100 peaches are involved. However, this variation presents some practical difficulties for the retailer.

No difficulties were reported on weight. If the test boxes are typical of the whole pack none should be encountered as the minimum weights seem ample. See table 4. A variation in count is therefore not important when fruit is sold by the pound. However, in the Twin Cities and in other box markets the bulk of the fruit is sold in unbroken packages for canning. Apparently, many buyers look at the count stamped on the box rather than the weight. If the buyer finds the box contains 56 peaches instead of 60, she thinks she has been "gypped" out of four peaches. A number of complaints were heard and some boxes were returned for exchange. This point was also mentioned in the mailed schedules. Actually, with the same weight of fruit packed in each box, the 56 peaches were more ideal for canning than the 60 or more which were given in exchange. Nevertheless, when the actual count is below the number stamped on the box, the retailer runs into problems. If the 101 test boxes were typical, there is a tendency to pack larger-size fruit and have fewer in the box than the labeled count. The 101 boxes counted were all stamped 60 size. Of the 101, however, 46 boxes contained exactly 60 peaches, 7 boxes had more than 60, and 48 had less than 60. So, nearly half the total number were below the stamped count. If some practical adjustment could be made, it would be helpful to the retailer.

Bruised Fruit

General complaints were heard from wholesalers and retailers regarding the bruising of peaches of sizes larger than 60's. Bruised fruit in boxes of 50's was also mentioned in the mailed schedules. Some cars on which allowances were being asked by the buyers were observed. Enough of these were seen to establish the opinion that these dealers have a basis for their complaints.

When sizes of 50 or larger are packed in the standard peach box the fruit is tight. Pressure results on the sides, top, and bottom, especially the top and bottom. The stress and weight during shipment presses the thin bottom and cover of the box down into the peaches. Thus, many bruises not observed when the box was packed show up as dark or decayed spots in the market.

Dealers stated that more complaints about bruised fruit were heard this year than usual. This evidently resulted from the fact that a higher proportion of large sizes were packed than usual.

Some practical means to correct this would be valuable. The large-size peaches should fit in well with the general marketing program as they supply Colorado's competition to the large-size western fruit for use as fresh peaches. The demand would no doubt be more limited than for the popular middle sizes but should round out a more complete schedule of sizes. At least they should not be a drawback as they apparently were this year. A 3/8" cleat on the top of the box or a deeper box might help.

SUMMARY

Results of the study were largely favorable to the Colorado peach industry. They showed up distinct consumer preferences as well as dealers' reaction to the fruit.

CONSUMER PREFERENCE

Buyers showed a distinct preference for the firm ripe fruit. The tree ripe peaches were second and the hard ripers hardly sold at all as long as the others were available. Appearance seemed to be the determining influence. The firm ripe fruit was bright and fresh looking, the tree ripe looked dull, and the hard ripe appeared green.

Transit and store losses in the case of tree ripe fruit were high, and low for the other two maturities. The loss of weight, however, was greatest in the case of the less mature fruit.

CONSUMER PACKAGES

The 6-pound cardboard cartons packaged at the shipping point and tried out in this study did not appeal to the Twin Cities consumers. The use of veneer tills for selling about 2 pounds of peaches, however, is general. Apparently buyers who wish more than the small tills prefer a whole box.

CONSUMER OPINIONS AND ADVERTISING

As a result of long years of industry promotion and the resulting response, Twin City consumers expressed a definite preference for Colorado peaches over those from other areas. This is especially true of peaches for canning. Other areas need to appraise the results of these programs when planning industry improvement.

Evidently, most Twin City consumer purchasers already converted to Colorado peaches. Of 100 interviewed directly and 74 who returned mailed questionnaires all but 6 were repeat buyers. Many have been buying these peaches for a long time. Other persons have been the greatest factor in influencing people to buy Colorado peaches, accounting for 42 percent. Advertising had influenced 8 of 100 to make the first purchase.

In addition to the industry advertising, peach buyers are given an intensive build-up by the retail trade. This includes newspaper ads, window posters, and displays. Nineteen of the 100 consumers interviewed recalled seeing the industry ads and 5 had heard radio announcements. The consumer buyers generally see the advertising of the retail grocers. Therefore, coordinating the industry ads with the local advertising might strengthen both.

GENERAL MARKET OBSERVATIONS

Baskets

Opportunities to observe the marketing of Colorado peaches in baskets were limited as this particular study was made in the box markets. However, these limited observations indicated an improvement in appearance as compared to the year before. The pack seemed more uniform though much still remains to be done. The printed rim collars and labeled and stenciled baskets were attractive.

Competing Fruit

Colorado supplied over three-fourths of the peaches unloaded in the Twin Cities during the first 2 weeks of September. The States of Washington, Utah, Illinois, and Indiana supplied most of the balance.

Prices

A wide range of prices prevailed in the retail stores. Varying types of stores sold unbroken boxes at from \$1.69 to \$2.19 with most quotations at \$1.69 to \$1.89 each. The price of the quart veneer talls holding from 8 to 10 peaches ranged from 25 to 45 cents each with most sales at 25 to 35 cents.

Mesa and Delta County Fruit

Mesa County peaches are much better known than Delta County because of their larger volume and because of concentration of this volume into a few brands. The trade, however, likes the Delta County fruit and commented on its uniformity and good pack.

Variation in Count

No complaints were heard of short weight of Colorado boxed peaches. However, numerous complaints were heard of variation in actual count from the number stamped on the box. The complaints mostly came from housewives who buy unbroken boxes. A total of 48 of 101 boxes stamped 60's contained less than 60 peaches.

Bruised Fruit

No complaints were heard of bruised fruit of sizes 60 or smaller. However, numerous complaints were heard of bruised fruit of sizes 50 and

larger. Fruit observed during this study justified these complaints. Some means should be found to take advantage of these larger sizes as part of the marketing program instead of letting them remain a drawback.

RECOMMENDATIONS

1. In view of the distinct consumer preference for firm ripe peaches and the small losses from the firm ripe stock, continued experiments in packing and shipping firm ripe fruit are recommended.
2. Through card survey, a broad sample of consumer opinions on marketing problems should be secured. In the meantime, tying the industry program in with dealer advertising, at least in some test cities, should be considered.
3. Because such a high proportion of boxed peaches are sold in unbroken units, some system of packing the actual count nearer the number stamped on the box is needed.
4. Either through cleats or a wider end board a deeper box for the large-size peaches to prevent bruising should be developed.

*Questions asked about Colorado peaches
in consumer interviews, at St. Paul
and Minneapolis markets, 1947*

1. How do Colorado peaches compare with others for:
Use fresh?_____ Canning?_____
2. Is this your first purchase of Colorado peaches? _____
If so, why did you buy them? _____
If not, why did you buy Colorado peaches the first time? _____
3. Have you seen Colorado peach ads in the paper? _____
Posters? _____ Heard radio advertising? _____
If so, did you buy as a result? _____

Address of store:

Enumerator:

Letter sent out by Colorado
A. & M. College during
peach marketing study, 1947

Colorado Agricultural Experiment Station
Colorado A. & M. College
Fort Collins, Colo.

Code No. _____

PEACH CONSUMER REPLY FORM

Dear Consumer:

The Colorado Agricultural Experiment Station in cooperation with the Farm Credit Administration, United States Department of Agriculture, is conducting this study to determine consumer preferences in peaches. We would appreciate your checking the following questions and returning in the self-addressed, postage-paid envelope at your earliest convenience. Thank you.

1. Do you prefer a bin or box display? Bin _____ Box _____
2. In displays, should we leave the fruit wrapped, or should we unwrap the fruit? Wrap _____ Unwrap _____
Why? _____
3. On what basis did you select the peaches? Color _____ Size _____
Uniformity _____ Lack of blemishes _____ Ripeness _____
General appearance _____, or on price _____
(Place the number 1 after 1st reason, the number 2 after 2nd reason, etc.)
4. Would you prefer to have the fruit prepackaged in small containers and wrapped in cellophane, or would you rather select, weigh, and package your own peaches? Prepackaged _____ Do myself _____
Why? _____
5. Have you ever purchased Colorado peaches before? Yes _____ No _____
If so, do you consider the quality dependable? Yes _____ No _____
6. How will these peaches be used? Canning _____ Freezing _____
Preserves _____ Peeled and sliced _____ Eaten out of hand _____
Pie _____ Other baked goods _____
7. In your opinion, which is the best all-round variety of peach?

8. What fault, if any, do you find with the peaches you purchased?

9. Any other comment

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